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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,876	09/12/2005	Motoyuki Sugiura	4706-2	8730
23117 7590 10/14/2009 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
FRANK, NOAH S				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/534,876

Applicant(s)

SUGIURA ET AL.

Examiner

NOAH FRANK

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,10 and 14-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,10 and 14-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. (US 5,674,930) in view of Hosoda et al. (US 5,847,042).

Considering Claim 1: Sugiura et al. teaches a graft copolymer having an olefin homo/co-polymer forming its main chain and a vinyl copolymer portion forming its branched portion (3:10-15). One of the olefin and vinyl form a dispersed phase in the other with a particle size of 0.001 to 10 microns, forming a multi-phase structure (3:20-25). Suitable vinyl monomers are hydroxyl group containing monomers and ester monomers of (meth)acrylic acid (8:55-60). Furthermore, the graft copolymer is blended with polypropylene, a thermoplastic resin (11:35-40).

Sugiura does not teach the graft copolymer comprising the claimed lubricant. However, Hosoda et al. teaches polyolefin resins wherein a fatty amide compound may be added to further improve the anti-blocking and scratch resistance of the polyolefin (3:40-46). Suitable fatty amides are erucic acid amide (3:55-60) and ethylene bis-oleic acid amide (3:60-65). Sugiura and Hosoda are analogous art because they are from the same field of endeavor, namely polyolefins. At the time of the invention a person of

ordinary skill in the art would have found it obvious to have used erucic acid amide or ethylene bis-oleic acid amide, as taught by Hosoda, in the invention of Sugiura, in order to increase the scratch-resistance of the polyolefin (3:40-46 of Hosoda).

While Hosoda teaches that the fatty amide content is from 0 to 0.4 parts by weight (3:45-50), this is in order to obtain a transparent product (3:45-50). As Sugiura is not concerned with arriving at a transparent product, there is no reason to limit the amount of fatty amide. Therefore, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. MPEP 2144.05. The skilled artisan, recognizing that transparency is not required, would add a larger amount of fatty amide, in order to increase the scratch resistance of the polyolefin, due to the presence of fatty amide (3:40-50 of Hosoda).

Considering Claim 3: Sugiura et al. teaches making the graft copolymer by suspending an olefin homo/co-polymer in water, adding a solution of vinyl monomer, radically polymerizable organic peroxide, and polymerization initiator, impregnating the olefin with the vinyl monomer, peroxide, and initiator, copolymerizing the vinyl monomer and peroxide, and melt kneading the subsequent precursor (9:15-50).

Considering Claim 4: Sugiura et al. teaches melt kneading at a temperature of 100 to 300°C (9:45-50).

Considering Claims 14-15: As the claims are drawn to a product, the process of arriving at the product is irrelevant. Sugiura teaches the same claimed graft copolymer composition as set forth above.

Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. (US 5,674,930) in view of Hosoda et al. (US 5,847,042).

Considering Claim 5: Sugiura et al. teaches a thermoplastic resin comprising a propylene polyimide or propylene based polymer and a graft copolymer having an olefin homo/co-polymer forming its main chain and a vinyl copolymer portion forming its branched portion (3:10-15). One of the olefin and vinyl form a dispersed phase in the other with a particle size of 0.001 to 10 microns, forming a multi-phase structure (3:20-25). Suitable vinyl monomers are hydroxyl group containing monomers and ester monomers of (meth)acrylic acid (8:55-60). Furthermore, the graft copolymer is blended with polypropylene, a thermoplastic resin (11:35-40).

Sugiura does not teach the graft copolymer comprising the claimed lubricant. However, Hosoda et al. teaches polyolefin resins wherein a fatty amide compound may be added to further improve the anti-blocking and scratch resistance of the polyolefin (3:40-46). Suitable fatty amides are erucic acid amide (3:55-60) and ethylene bis-oleic acid amide (3:60-65). Sugiura and Hosoda are analogous art because they are from the same field of endeavor, namely polyolefins. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used erucic acid amide or ethylene bis-oleic acid amide, as taught by Hosoda, in the invention of Sugiura, in order to increase the scratch-resistance of the polyolefin (3:40-46 of Hosoda).

While Hosoda teaches that the fatty amide content is from 0 to 0.4 parts by weight (3:45-50), this is in order to obtain a transparent product (3:45-50). As Sugiura is

not concerned with arriving at a transparent product, there is no reason to limit the amount of fatty amide. Therefore, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. MPEP 2144.05. The skilled artisan, recognizing that transparency is not required, would add a larger amount of fatty amide, in order to increase the scratch resistance of the polyolefin, due to the presence of fatty amide (3:40-50 of Hosoda).

Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. (US 5,674,930) in view of Hosoda et al. (US 5,847,042).

Considering Claim 10: Sugiura et al. teaches a thermoplastic resin comprising a propylene polymeride or propylene based polymer and a graft copolymer having an olefin homo/co-polymer forming its main chain and a vinyl copolymer portion forming its branched portion (3:10-15). One of the olefin and vinyl form a dispersed phase in the other with a particle size of 0.001 to 10 microns, forming a multi-phase structure (3:20-25). Suitable vinyl monomers are hydroxyl group containing monomers and ester monomers of (meth)acrylic acid (8:55-60). In addition, Sugiura teaches using the resin composition as a material for molded articles (13:30-40). Furthermore, the graft copolymer is blended with polypropylene, a thermoplastic resin (11:35-40).

Sugiura does not teach the graft copolymer comprising the claimed lubricant. However, Hosoda et al. teaches polyolefin resins wherein a fatty amide compound may be added to further improve the anti-blocking and scratch resistance of the polyolefin

(3:40-46). Suitable fatty amides are erucic acid amide (3:55-60) and ethylene bis-oleic acid amide (3:60-65). Sugiura and Hosoda are analogous art because they are from the same field of endeavor, namely polyolefins. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used erucic acid amide or ethylene bis-oleic acid amide, as taught by Hosoda, in the invention of Sugiura, in order to increase the scratch-resistance of the polyolefin (3:40-46 of Hosoda).

While Hosoda teaches that the fatty amide content is from 0 to 0.4 parts by weight (3:45-50), this is in order to obtain a transparent product (3:45-50). As Sugiura is not concerned with arriving at a transparent product, there is no reason to limit the amount of fatty amide. Therefore, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. MPEP 2144.05. The skilled artisan, recognizing that transparency is not required, would add a larger amount of fatty amide, in order to increase the scratch resistance of the polyolefin, due to the presence of fatty amide (3:40-50 of Hosoda).

Claims 1, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. (US 5,674,930) in view of Peterson (US 5,229,197).

Considering Claims 1, 16-17: Sugiura et al. teaches a graft copolymer having an olefin homo/co-polymer forming its main chain and a vinyl copolymer portion forming its branched portion (3:10-15). One of the olefin and vinyl form a dispersed phase in the other with a particle size of 0.001 to 10 microns, forming a multi-phase structure (3:20-

25). Suitable vinyl monomers are hydroxyl group containing monomers and ester monomers of (meth)acrylic acid (8:55-60). Furthermore, the graft copolymer is blended with polypropylene, a thermoplastic resin (11:35-40).

Sugiura teaches the graft copolymer comprising a lubricant (13:20-25). Sugiura does not teach the claimed lubricant. However, Peterson teaches polyolefin blends comprising lubricants such as polyethylene glycol present at 1 to 3 parts by weight (3:40-45). A suitable lubricant is Carbowax 3350 (mw≈3350) (5:1). Sugiura and Peterson are analogous art because they are from the same field of endeavor, namely polyolefin blends. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the lubricant of Peterson, in the invention of Sugiura, as a well known lubricant for polyolefins. While Peterson teaches an amount of lubricant less than the claimed amount, the claimed amount is the amount only in the polyolefin, not in the composition as a whole. Accordingly, the skilled artisan would recognize that the amount of lubricant would be adjusted in the polyolefin in order that the total amount of lubricant would be present at 1 to 3 parts by weight, including the additional thermoplastic. Therefore, it is understood that 1 to 3 parts by weight in the total composition will overlap with 10 to 40% by weight in relation to the polyolefin.

Claims 5, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. (US 5,674,930) in view of Peterson (US 5,229,197).

Considering Claims 5, 18-19: Sugiura et al. teaches a thermoplastic resin comprising a propylene polymeride or propylene based polymer and a graft copolymer

having an olefin homo/co-polymer forming its main chain and a vinyl copolymer portion forming its branched portion (3:10-15). One of the olefin and vinyl form a dispersed phase in the other with a particle size of 0.001 to 10 microns, forming a multi-phase structure (3:20-25). Suitable vinyl monomers are hydroxyl group containing monomers and ester monomers of (meth)acrylic acid (8:55-60). Furthermore, the graft copolymer is blended with polypropylene, a thermoplastic resin (11:35-40).

Sugiura teaches the graft copolymer comprising a lubricant (13:20-25). Sugiura does not teach the claimed lubricant. However, Peterson teaches polyolefin blends comprising lubricants such as polyethylene glycol present at 1 to 3 parts by weight (3:40-45). A suitable lubricant is Carbowax 3350 (mw≈3350) (5:1). Sugiura and Peterson are analogous art because they are from the same field of endeavor, namely polyolefin blends. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the lubricant of Peterson, in the invention of Sugiura, as a well known lubricant for polyolefins.

Claims 10, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. (US 5,674,930) in view of Peterson (US 5,229,197).

Considering Claims 10, 20-21: Sugiura et al. teaches a thermoplastic resin comprising a propylene polyimide or propylene based polymer and a graft copolymer having an olefin homo/co-polymer forming its main chain and a vinyl copolymer portion forming its branched portion (3:10-15). One of the olefin and vinyl form a dispersed phase in the other with a particle size of 0.001 to 10 microns, forming a multi-phase

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structure (3:20-25). Suitable vinyl monomers are hydroxyl group containing monomers and ester monomers of (meth)acrylic acid (8:55-60). In addition, Sugiura teaches using the resin composition as a material for molded articles (13:30-40). Furthermore, the graft copolymer is blended with polypropylene, a thermoplastic resin (11:35-40).

Sugiura teaches the graft copolymer comprising a lubricant (13:20-25). Sugiura does not teach the claimed lubricant. However, Peterson teaches polyolefin blends comprising lubricants such as polyethylene glycol present at 1 to 3 parts by weight (3:40-45). A suitable lubricant is Carbowax 3350 (mw \approx 3350) (5:1). Sugiura and Peterson are analogous art because they are from the same field of endeavor, namely polyolefin blends. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the lubricant of Peterson, in the invention of Sugiura, as a well known lubricant for polyolefins.

Response to Arguments

Applicant's arguments filed 8/4/09 have been fully considered but they are not persuasive.

In response to applicant's arguments that Hosoda teaches away from 10 to 40% by weight of lubricant, it is again maintained that while bleeding and whitening are severely detrimental to a transparent article, they are not fatal flaws to a molded article which will be painted over. When the fatty amide content is greater than 0.4 parts by weight, it is no longer possible to make a transparent article. However, the skilled artisan has a reasonable expectation of success that an article that is not required to be

transparent could be made with higher concentrations of fatty amide. No evidence has been presented showing that there is an unexpected lack of bleeding or a certain percentage of lubricant results in an unexpectedly low amount of bleeding. In the instant case, it merely seems that two objectives are being balanced, namely scratch resistance and color of the object. It is obvious to adjust the percentage of fatty amide to arrive at a desired balance of these two traits.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOAH FRANK whose telephone number is (571)270-3667. The examiner can normally be reached on M-F 9-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James J. Seidleck/
Supervisory Patent Examiner, Art Unit 1796

NF
10-8-09